

**In the Claims:**

**Claim 1 (currently amended):**

1. An information hiding method with reduced fuzziness, which comprises the steps of:  
inputting the information to be embedded into a convolutional encoder and  
generating encoded information whose length is a multiple of the original  
information;  
generating a random number sequence using interleaving encoding for permuting the  
encoded information, the seed of the random numbers being a first key;  
selecting a pixel of a host image using a random number generator as an information  
embedding point of the encoded information, the seed of the random number  
generator being a second key, and  
embedding the encoded information into a B channel of the pixel of the host image;  
further wherein the host image H is an image of  $m \times n$  pixels and the electronic  
signature to be embedded is information W with a size L, both the host image H and  
the embedded information W being expressed as:

$$H = \{h_{ij} \mid 0 \leq m, 0 \leq j \leq n, h_{ij} \in [0, 255]\}, \text{ and}$$

$$W = \{w_i \mid 0 \leq L, w_i \in [0, 1]\}; \text{ and}$$

a set  $ASET_{ij} = \{h_{i+1,j}, h_{i-1,j+1}, h_{i,j+1}, h_{i+1,j+1}\}$  being defined for four pixels surrounding and  
to the right of any pixel  $h_{ij}$  in the host image.

**Claim 2 (currently amended):**

2. The method according to claim 1, wherein the convolutional encoding corrects  
transmission errors or human damages on the encoded information.

**Claim 3 (original):**

3. The method according to claim 1, wherein the random number sequence is generated by a linear feedback shift register.

Claim 4 (original):

4. The method according to claim 3, wherein the linear feedback shift register comprises a plurality of buffers.

Claim 5 (previously amended):

5. The method according to claim 1 further comprising the following steps for extracting the embedded information:
- using the second key to compute the embedding positions of the encoded information;
  - using the first key to reconstruct the encoded information and to restore the order before interleaving encoding; and
  - decoding the encoded information using convolutional\_decoding.

Claim 6 (withdrawn):

- 6.

Claim 7 (currently amended):

7. The method according to claim 6 1, wherein a temporary variable is defined to be  $h' = (h_{i-1,j-1} + h_{i,j-1} + h_{i-1,j+1} + h_{i,j+1} + h_{i+1,j} + h_{i,j+1} + h_{i-1,j+1} + h_{i+1,j+1})/8$ .

Claim 8 (withdrawn):

- 8.

Claim 9 (original):

9. The method according to claim 5, wherein the hidden information is true if  $h \neq h_j$  in the step of using the second key to compute the embedding positions of the encoded information.

Claim 10 (previously amended):

10. The method according to claim 5, wherein the convolutional decoding adopts the Viterbi algorithm.